

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No.: 09/904,558

REMARKS

The Office Action of May 19, 2003 has been received and its contents carefully considered.

Claims 1 and 4-9 have been rejected under the second paragraph of 35 U.S.C. §112 as indefinite. The Examiner sets forth a number of reasons for this rejection. Applicants discuss each reason below.

(a) The Examiner states that claim 1 contains the broad recitation “unsaturated polyester” in lines 4 to 5 and in line 11. The Examiner further states that claim 1 also recites “Rigolac 2004WM-2” or Polylite TP-123”, which, according to the Examiner, are narrower statements of the term “unsaturated polyester”. The Examiner asserts that a claim cannot contain both a broad and narrow statement of the same component.

The terms “Rigolac 2004WM-2” and Polylite TP-123” appear in claim 1 in a parenthetical expression. The Examiner is interpreting this parenthetical expression as a separate limitation which is independent from the limitation of an “unsaturated polyester”. Applicants point out, however, that the parenthetical expression is to be considered together with the term “unsaturated polyester” to define only one component.

In order to make this clear, applicants have amended claim 1 to remove the parentheses. Further, as discussed in detail below, applicants have deleted the terms “Rigolac 2004WM-2” and “Polylite TP-123”, from claim 1, and have inserted a further description of the two unsaturated polyester resins.

(b) The Examiner states that claim 1 contains the trademark/trade names “Rigolac 2004WM-2” and “Polylite TP-123”.

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The Examiner states that when a trademark or trade name is used in the claim as a limitation to describe or identify a particular material or product, the claim does not comply with the requirements of the second paragraph of 35 U.S.C. §112. The Examiner states that the claimed scope is uncertain because the trademark or trade name cannot be used properly to identify a particular material or product. The Examiner states that in the present case, the trademark/trade name is used to identify/describe specific unsaturated polyesters and, therefore, is indefinite.

As set forth in MPEP §608.01(v), a trademark or a trade name is permissible in a patent application if (A) its meaning is established by an accompanying definition which is sufficiently precise and definite to be made a part of a claim, or (B) in this country, the meaning is well known and satisfactorily defined in the literature. Conditions (A) or (B) must be met at the time of filing of the complete application.

As set forth in MPEP §608.01(v), if the trademark has a fixed and definite meaning, it constitutes sufficient identification unless some physical or chemical characteristic of the article or material is involved in the invention. In such an event, identification by scientific or other explanatory language is necessary.

The MPEP §608.01(v) states that identification of a trademark can be introduced into a specification by amendment, and when so introduced it must be restricted to the characteristics of the product known at the time the application was filed to avoid any question of new matter. If the product cannot be otherwise defined, an amendment defining the process of its manufacturing may be permitted. The amendment to define the product must be supported by a satisfactory showing establishing that the specific nature of the product or the process of

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manufacture of the product as set forth in the amendment was known at the time of filing of the application.

Accordingly, applicants have amended the specification and claim 1 to recite characteristics of the products known at the time the application was filed.

The characteristics of “Rigolac 2004WM-2” which have been added is the fact that it is an unsaturated polyester resin having a viscosity of 10 poises at 20°C measured by a Brookfield viscometer. See the Kitayama et al patent that the Examiner cites, where the determination of the resin filling viscosity is described at column 5, lines 25 to 30, and where use of “Rigolac 2004WM-2” is described at column 16, lines 46 to 50.

Similarly, with respect to the “Polylite TP-123”, applicants have amended the specification and claim 1 to recite the characteristic that “Polylite TP-123” has a viscosity of 18 poise at 25°C as measured by a Brookfield viscometer. See the Oda et al patent that is cited by the Examiner at column 6, lines 61 to 65.

(c) The Examiner states that in claim 1, line 6, the term “can be” is employed. The Examiner states that this term is confusing because it is not clear whether the term “can be” is actually requiring that the viscosity is less than 200 P, or whether there is only a potential for the viscosity to be less than 200 P. The Examiner suggests that the term “can be” be changed to is.

A similar problem is raised with respect to the term “can be” in claim 1, lines 14 to 15 for the curing time. Again, the Examiner proposes that this term be changed to --is--.

In response, applicants have amended claim 1 in accordance with the Examiner’s proposals. Thus, applicants have amended claim 1 to change the term “can be” to --is-- with respect to the viscosity and curing time.

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(d) In view of the above, applicants submit that the claims comply with the requirements of the second paragraph of 35 U.S.C. § 112 and, accordingly, request withdrawal of this rejection.

Claim 1 has been rejected under 35 U.S.C. §102(b) as anticipated by Kitayama et al.

Applicants submit that Kitayama et al do not disclose or render obvious the subject matter of claim 1 and, accordingly, request withdrawal of this rejection

In essence, the Examiner argues that Kitayama et al disclose all of the recitations of claim 1, except that Kitayama et al do not disclose that the aluminum hydroxide particles have the curing time of less than 20 minutes set forth in claim 1. The Examiner argues that since the aluminum hydroxide disclosed in Kitayama et al is otherwise identical to that set forth in the present claims, it is clear that the aluminum hydroxide in Kitayama et al would inherently result in the recited curing time of less than 20 minutes.

Applicants disagree with the Examiner's assertion that Kitayama et al disclose all of the recitations of claim 1, except for the curing time.

In particular, Kitayama et al do not disclose a fine particle aluminum hydroxide having the recited resin filling viscosity of less than 200 poises.

The Examiner states that Kitayama et al disclose a viscosity of less than 1,000 cP and, therefore, satisfies the recitations of the present claims.

The Examiner refers to specific passages in Kitayama et al, namely, to the passages at column 5, lines 21 to 25, at column 11, lines 22 to 23, at column 12, lines 45 to 46, and at column 16, lines 48 to 50. None of the passages referred to by the Examiner, however, satisfy the recitations of claim 1 with respect to the resin filling viscosity.

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The passage at column 5, lines 21 to 25 refers to a resin filling viscosity of lower than 1,000 P, particularly lower than 800 P. There is no disclosure here of a viscosity less than 1,000 cP.

The passage at column 11, lines 22 to 23 refers to the amount of aluminum hydroxide in the resin, and does not refer to viscosity.

The passage at column 12, lines 45 to 46 refers to a “varnish” viscosity of 10,000 cP for a composition comprising 100 parts of a curing agent-containing epoxy resin, 5 parts of aluminum hydroxide and 100 parts of a solvent as measured at 25°C. This 10,000 cP “varnish” viscosity is not a resin filling viscosity as described in claim 1. Further, a viscosity of 10,000 cP corresponds to a viscosity of 1,000 P, and thus is not less than 200 poises as required by claim 1.

The passage at column 16, lines 48 to 50 does refer to a resin filling viscosity based on an unsaturated polyester resin “Rigolac 2004WM-2” at the same conditions as set forth in claim 1 for measuring resin filling viscosity. Kitayama et al specifically disclose at column 16, lines 54 to 56, that the resin filling viscosity is lower than 1,000 P, not 1,000 cP.

Further, Kitayama et al disclose specific examples of resin filling viscosities in the various Tables of Kitayama et al. None of the resin filling viscosities in the Tables of Kitayama et al is less than 200 P. They are all greater than 200 P. For example, Table 3B, at columns 17 and 18, discloses resin filling viscosities of 520 to 800 P for Examples 7 to 11. In Table 4B, which sets forth Comparative Examples, the resin filling viscosity is from 400 to 2900 P. In Table 5B, for Examples 12 to 18 of Kitayama et al, the resin filling viscosity is from 420 P to 950 P. In Table 6B, for Comparative Examples, the resin filling viscosity is from 350 to 3200 P. Thus, there is no disclosure in Kitayama et al of a resin filling viscosity of less than 200 poises.

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Accordingly, applicants submit that Kitayama et al do not anticipate claim 1 and, accordingly, request withdrawal of this rejection.

Claims 2 to 9 have been rejected under 35 U.S.C. §103(a) as obvious over Kitayama et al in view of Oda et al.

Applicants submit that these references do not disclose or render obvious the subject matter of claims 2 to 9 and, accordingly, request withdrawal of this rejection.

In essence, the Examiner argues that Kitayama et al disclose all of the features of claims 2 to 9, except for the requirement in these claims of a BET surface area of aluminum hydroxide for component X of 1.0 m²/g or less. The Examiner relies on the teachings of Oda et al at column 4, line 65 to column 5, line 4 to supply such a teaching.

The Examiner relies on the teachings of Kitayama et al, at column 11, line 37 to line 56, for a teaching of a mixture of aluminum hydroxides having different particle sizes, where there is disclosed a binary mixture of two different aluminum hydroxide particles (A) and (B) in a weight ratio of (A)/ (B) of from 1/9 to 9/1, and the teachings of Examples 7 to 18, and particularly the teachings at column 17, line 25 to column 18, line 6, where there is a disclosure of a mixture of 70 parts of a coarse aluminum hydroxide and 160 parts of a fine aluminum hydroxide, corresponding to a binary mixture of 70/30.

Applicants first note that undersigned counsel had two telephone interviews with the Examiner, one on June 26, 2003 and one on July 1, 2003, to discuss the patentability of claims 2 to 9 over the above references. The Interview Summary dated July 7, 2003 accurately summarizes the substance of those interviews, and is incorporated herein. The following remarks will further discuss the substance of the interviews.

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With respect to claim 2, this claim is directed to a fine particle of aluminum hydroxide comprising a particulate aluminum hydroxide X, a particulate aluminum hydroxide Y and a particulate aluminum hydroxide Z having the properties recited in claim 2, and being present in the amounts recited in claim 2. In original claim 2, particulate aluminum hydroxide Y could be present in a zero (0) amount. Thus, original claim 2 covered both binary and ternary compositions. Applicants have amended claim 2 so that it no longer covers binary compositions.

In particular, applicants have amended claim 2 so that component Y is present in a required minimum amount of at least 5%. During the interview with the Examiner, the Examiner agreed that if component Y is required to be present, then she would consider the claims to be patentable over the prior art. The Examiner stated she had looked for prior art showing a ternary composition, but she was not able to find any.

Applicants' undersigned counsel also discussed with the Examiner which minimum amount of Y she would consider to be patentable over the prior art. Applicants undersigned counsel proposed a 10% amount and a 5% amount. The Examiner stated that she would consider both of these amounts to be patentable over the prior art. Accordingly, applicants have amended claim 2 to recite the 5% amount for Y, and have amended the specification to define an area surrounded by four points of α , β , ε and ϕ , where points ε and ϕ contain Y in an amount of 5% mass and are on the lines in Figure 1 connecting β and γ and α and δ , respectively.

Applicants note that the present specification as originally filed does not contain any literal support for the specific range for a ternary composition where Y is 5% or more. Applicants submit, however, that the present specification and Figure 1 support this range, since all that applicant has done is to amend the specification and claim 1 to recite a narrower range that

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is within the broad range originally disclosed in the specification. See, for example, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976), *appeal after remand*, 646 F.2d 527, 209 USPQ 554 (CCPA 1981) and *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 227 USPQ 177 (Fed.Cir. 1985). In *Wertheim*, the Court allowed a claim directed to a concentration “of between 35% and 60%” based on a disclosure in the corresponding foreign priority application whose benefit was sought of “25 to 60%”. In *Ralston Purina*, the Federal Circuit allowed a recitation in a claim of “into the range of 212°-310°F” based on the disclosure of an earlier application whose filing date was needed “of 212°-380°F”.

In *Ralston Purina*, the Federal Circuit stated that the claimed temperature range “involves [nothing] more than claiming a portion of that which had been earlier described.”

Similarly, in the present case, the amended claim 2 involves nothing more than claiming a portion of that which had been earlier described.

In view of the above, applicants submit that claim 2 is supported by the present specification, and is patentable over the cited prior art since it is directed to a ternary composition, whereas the cited prior art only discloses binary compositions.

Turning now to claim 3, undersigned counsel originally discussed with the Examiner during the telephone conference of June 26, 2003 possible amendments to claim 3 to direct it to a ternary composition. During the subsequent telephone conference of July 1, 2003, undersigned counsel discussed the Kitayama et al patent in further detail and directed the Examiner’s attention to Points C and D of Figure 2 (Examples 2 and 3) of the present application, which set forth a ratio of a coarse aluminum hydroxide to a fine aluminum aluminum hydroxide of 4:1 to 3:1 for a binary system, and compared these results for those shown for Points L and M of the

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present specification (Comparative Examples 7 and 8). Undersigned counsel pointed out that Point M corresponded to the 70:30 ratio in the Examples at columns 17 to 18 of Kitayama et al.

The Examiner reviewed the information and indicated that claim 3 would be considered to be patentable over Kitayama et al. Accordingly, applicant has not amended claim 3 and submit that it is patentable over the cited prior art.

Applicants have added a new independent claim 10 which is identical to claim 3, except that it is directed to a binary system in which Y is present in a required minimum amount of 5%, and have amended the specification to define an area surrounded by four points of A, B, R and S, where points R and S contain Y in an amount of 5%, and are on the lines in Figure 2 connecting B and C and A and D, respectively. Applicants submit that new claim 10 is supported by the original specification since, as in *Wertheim* and *Ralston Purina*, it involves nothing more than claiming a portion of that which had been earlier described.

In view of the above, applicants submit that claims 2 to 10 are patentable over the cited prior art and, accordingly, request withdrawal of this rejection.

Claims 2, 4, 5 and 7 to 9 have been rejected under 35 U.S.C. §103(a) as obvious over Oda et al.

Applicants submit that Oda et al do not disclose or render obvious the subject matter of these claims and, accordingly, request withdrawal of this rejection.

Applicants first note that claims 4, 5, and 7 to 9 are multiply dependent claims, with claim 4 depending on claim 2 or 3, and claims 5 and 7 to 9 depending on any one of claims 1 to 4. Applicants assume that the Examiner did not intend to include in this rejection any claim that depends from claim 1 or 3, since claims 1 and 3 have not been rejected over Oda et al.

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With respect to claim 2, applicants submit that it is patentable over Oda et al since claim 2 is directed to a ternary composition of aluminum hydroxide particles, whereas Oda et al only disclose a binary composition of aluminum hydroxide particles.

Further, the Examiner is relying on component (A) of Oda et al, which is an aluminum hydroxide having a secondary particle size of up to 100 microns, as being a component which corresponds to the presently claimed component Z which recites an average size of 0.5 to 10 microns.

The Oda et al patent discloses a mixture containing an aluminum hydroxide (A) and an aluminum hydroxide (B). In the Oda et al patent, the aluminum hydroxide (A) is a coarse product and the aluminum hydroxide (B) is a finer product made by pulverizing the aluminum hydroxide (A) and having a size of from 15 to 100 microns.

There is no disclosure in Oda et al of an aluminum hydroxide mixture that satisfies the component Z of claim 2 of an aluminum hydroxide having a size of 0.5 to 10 micron, except for Example 10 which applicants discuss below.

Examples 6 to 12 Oda et al are the only examples which employ a mixture of two different aluminum hydroxides. In these Examples, the aluminum hydroxide (A) had an average particle size of 70 microns, and thus does not satisfy component Z of claim 2 which requires an average particle size of 0.5 to 10 microns.

The aluminum hydroxide (B) in Oda et al in Examples 6 to 12 had an average particle of from 16 to 36 microns, except for Example 10 which had an average particle size of 7 microns.

Of all the Examples 6 to 12 in Oda et al which employ a mixture of aluminum hydroxides, only Example 10, which is a Comparative Example, had an aluminum hydroxide

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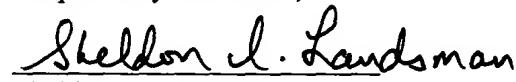
which satisfies the requirements of components X and Z of the present claims with respect to average particle size. Comparative Example 10 of Oda et al, however, had a BET specific surface area for aluminum hydroxide (B) of 4.4, which is outside of the scope of the recitation of 3.0 m²/g or less of claim 2, and had a mixing ratio of 60% of component (A) to 40% of component (B) which does not satisfy the recitation of claim 2 of at least 72.5% for the coarser particles. Thus, there is nothing in Oda et al which would lead one of ordinary skill in the art to the recitations of claim 2.

In view of the above, applicants submit that Oda et al do not disclose or render obvious the subject matter of claims 2, 4, 5 and 7 to 9 and, accordingly, request withdrawal of this rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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